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WATER QUALITY M E M O R A N D U M

Utah Coal Regulatory Program

January 11, 2012

TO: Internal File

THRU: Steve Christensen, Permit Supervisor *SKC*

FROM: April A. Abate, Environmental Scientist III *AAA 1-17-2012*

RE: 2011 2nd Quarter Water Monitoring, Savage Services Corporation, Savage Coal Terminal, C/007/0022, Task #3843

The Savage Coal Terminal is an operating coal loadout where coal is crushed, screened, blended, and then loaded onto rail transport. Pertinent water monitoring requirement information is in the MRP in Section 731.200.

1. Was data submitted for all of the MRP required sites? YES ☒ NO ☐

Springs

The Permittee is not required to monitor any springs at the Savage Coal Terminal. There are no springs to monitor at the Savage coal terminal site.

Streams

Stream site CV-14-W is required to be monitored during the 2nd and 4th quarters of each year.

CV-14-W was monitored during the 2nd quarter of 2011 but reported no flow.

Wells

There are three groundwater monitoring wells at the site: S-1-GW, S-2-GW, and CV-1-W.

As of 4th quarter 2010, the MRP states that wells S-1-GW, S-2-GW will be monitored bi-annually. CV-1-W is required to be monitored during the 2nd and 4th quarters of each year.

Groundwater monitoring wells S-1-GW, S-2-GW, and CV-1-W were monitored on April 12, 2011. S-1-GW was reported as dry this quarter. This well has never produced water since installation in 2006/2007 and does not appear to be meeting the objectives of the Probable Hydrologic Consequences section of the MRP.

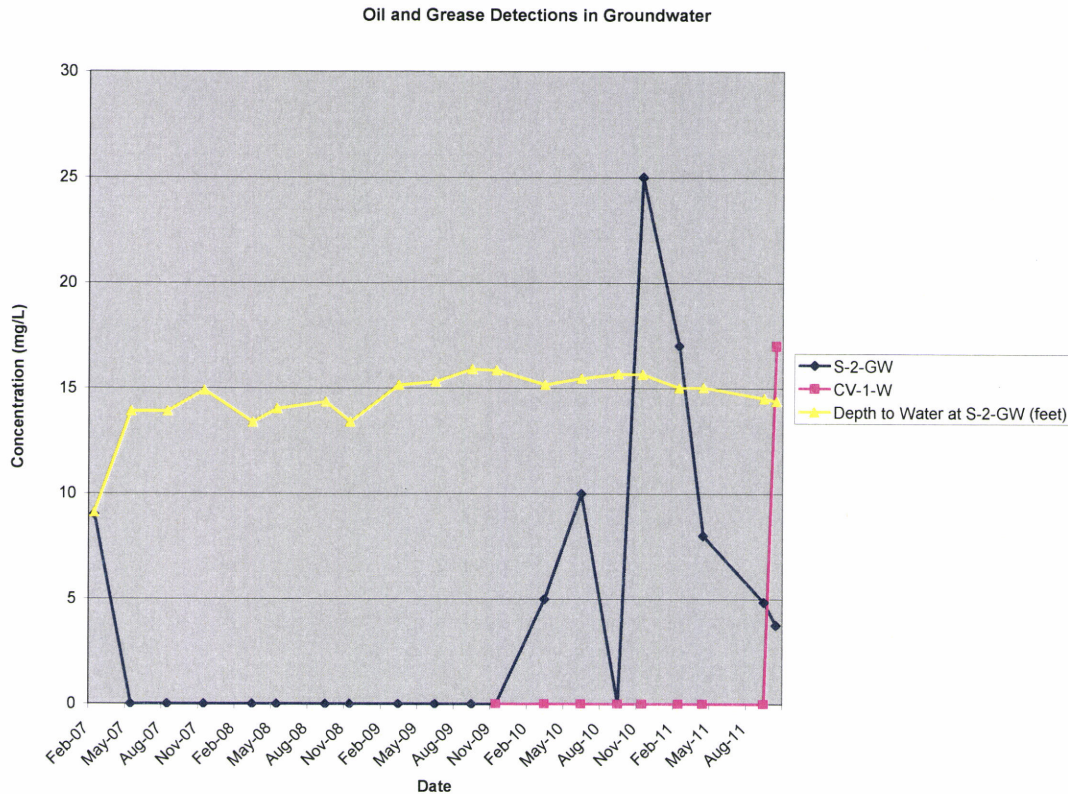
UPDES

There is one active UPDES outfall at the Savage Coal Terminal, CV-15-W, or UTG040005-001. The Permittee is required to monitor this UPDES site monthly under Permit # UTG040005 that is due to expire on April 13, 2013.

The location was monitored monthly during the 2nd quarter 2011. The Permittee recorded no flow at the UPDES point during the period.

2. **Were all required parameters reported for each site?** YES [X] NO []
3. **Were any irregularities found in the data?** YES [X] NO []

Oil and grease has been detected in groundwater monitoring well S-2-GW on a somewhat sporadic basis but in significant concentrations. No set trend has been identified in the oil and grease detections and it does not appear to be proportional to any changes in the piezometric surface of the water in the well. Savage has began a monthly monitoring program for oil and grease at well to monitor the oil and grease levels in this well more closely.



Oil and grease was also detected at an even higher concentration in the French drain sample CV-1-W at a concentration of 17 mg/L.

Values flagged outside of two standard deviations are as follows:

Sample ID	Parameter	Conc.	Std. Deviation	Mean
CV-1-W	Total Suspended Solids (TSS)	299 mg/L	3.87	45.81 mg/L

4. On what date does the MRP require a five-year re-sampling of baseline water data.

The permit renewal was issued on August 6, 2010. The permittee has committed to collecting baseline samples once every 5 years. The next scheduled baseline sampling is 4th quarter of 2013.

5. Based on your review, what further actions, if any, do you recommend?

The source of the oil and grease detection in the groundwater samples collected from S-2-GW should be further investigated. The UPDES limit for oil and grease at the permitted outfall is listed at 10 mg/L. Although this standard does not apply to groundwater, it can be used as an indicator of water quality issues that should be investigated. The Permittee has committed to collecting monthly samples for oil and grease from well S-2-GW which has shown decreasing but detectable concentrations of oil and grease. The French drain CV-1-W has also starting detecting oil and grease starting this quarter as well. Additional monthly sampling of the French drain is also recommended along with continued sampling at S-2-GW.

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